

Integrating Human Factors into Today's Training



Active participation at all levels is a necessity

Human Factors in Aircraft Maintenance has been recognized as a must in industry today. The industry has embraced the concept to a level of regulating training on this topic in some countries. If it is done right, the organization will be able to identify the recurrent training needs after the initial awareness training, which is important for the long term. We have to use the tools available to measure the success or failure of the training programs in order to be able to create a relevant recurrent training program. We cannot afford to waste our technician's time and bore them with irrelevant information. The information presented during MRM training has to be precise, relevant and applicable.

Key Elements for a Successful Human Factors Program

Our experience has shown that an organization's Maintenance Human Factors program should have the following attributes:

1. Have 100% support and participation from management and maintenance personnel.
2. Become part of the culture and work ethic.
3. Focus on improving communication skills.
4. Be tailored to the work environment, including identification and correction of potential problems.
5. Include behavioral analysis for those attendees participating in the program.
6. Incorporate a team approach.
7. Evaluate trends and factors for further training topics through the collection of data from errors and incidents.

Managing for success

A successful human factors program requires senior management participation, support and monitoring. It is a continuous program that requires a champion, such as the Quality Assurance Department, to ensure that it continues to remain effective. MRM training for managers and technicians, recurrent training, and training the trainers are all ongoing efforts necessary to guarantee that the human factors training program remains effective and targeted to maintenance technicians.

If management does not become involved in the human factors training, they will not understand the paradigm shifts created within the maintenance technician's thought process. Without management's support and participation, they will be wasting the organization's time and money. Both groups need to be involved in order for everyone to be synchronized with the same language and concepts that are taught and used in Human Factors training. If we are honest with ourselves and ask, "what are we doing wrong in the present system that creates the

80 percent Human errors figure?" then we have to go through a major cultural change in the organization.

Changing attitudes

This cultural change initiated during a MRM program will produce excellent results when everyone within the organization embraces the same thought process. After all, we want to improve professionalism in our industry and ultimately reduce incidents. You will not see an immediate return on investment or dramatic overnight changes. We are dealing with changing attitudes and behaviors in people, which are the most difficult attributes to change. But, with perseverance, as more people complete the program they begin to speak a common language. Soon, you will start to see a behavioral change within the organization that will provide long-term and lasting benefits.

Participation required

Besides endorsing the training, senior managers should also participate in the classes and take the message to heart. Senior management needs to go through the training, support it, by modeling the behavior taught in the class in their own working environment. If senior management does not model the behaviors that are taught in the class, the change in attitude and culture will not carry throughout the organization. But, with the active participation of management and the technician workforce, benefits of human factors training will start to be realized, including a reduction of incidents that could have been the start of the chain of events leading to an error or worse.

The response we have received after facilitating the human factors program for the last five years across many different aviation industry companies has been an overwhelming "Where were you 20 years ago? This type of training is long overdue," and "You have changed my attitude towards my life, thank you!"

New tools for technicians

An increased understanding of the role of human factors and the positive actions that professional aviation maintenance personnel can take has been shown to have a lasting effect beyond the end of the MRM training workshop. Just a few of the "practical tools" technicians acquire during the workshop include:

- Improved communications
- Increased assertiveness
- Methods to cope with pressure and stress
- How to recognize the onset of fatigue and deal with it

An overall increased awareness of the importance of human factors in maintenance personnel and the safety nets they can personally use to reduce maintenance error is perhaps the largest benefit. This translates into a work force with a much sharper focus on preventing minor errors which, if left unchecked or uncorrected, can lead to a significant incident or even catastrophic events. In general, MRM training can lead to improved quality, a safer environment, and a more involved and responsible work force. More specifically, the reduction of even minor errors can provide measurable benefits including cost reductions, fewer missed deadlines, reduction in work related injuries, reduction of warranty claims and reduction in more significant events which can be traced back to maintenance error.

The knowledge gained from MRM training helps us determine the root causes of an incident and to identify ways that we can prevent these incidents from occurring in the future.

About the author:

Richard Komarniski is President of Grey Owl Aviation Consultants Inc. He has worked as an Aircraft Maintenance Technician for the last twenty-six years holding AME and A&P Ratings. Richard has been providing Human Factors Training to various aviation maintenance departments. For information on Human Factors training or assistance in setting up a MRM Program contact Grey Owl Aviation Consultants Inc., Box 233, Onanole, Manitoba ROJ 1N0 Canada, telephone (204) 848-7353, or fax (204) 848-4605, www.greyowl.com or richard@greyowl.com.